NOTES

1. Papers selected for inclusion in General Sessions will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

2. Papers selected for inclusion in Specialized Sessions will be available at the Conference in only one of the above official languages.

3. Summaries of all papers, as submitted by contributors, will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

4. Papers and summaries will not be available for general distribution in advance of the Conference. They will be published in advance in limited quantities only for the use of delegations of participating governments and of other authorized participants. Post-Conference publication and general distribution of the Conference Proceedings will follow United Nations practices as laid down by the United Nations Publications Board.

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C.4.2.

RELATION BETWEEN PARASITISM AND RICE YIELDS

by

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Phytopathological Research of the O R S T O M

Rice production in West Africa has three aspects :

- irrigated cultures of the delta type - water flow is the principal factor regulating sanitary conditions and productivity ;

- cultures in inundated valleys, conditioned by the irregular distribution of floods and generally giving poor crops ;

- rainy cultures, especially in the forest region, requiring at least 1100 mm. and a homogenous repartition of rainfall. This type of culture is subject to parasites, owing to unsuitable soils as well as to rainfall irregularities.

The most important pathogens are Helminthosporium oryzae Br. de H., Piricularia oryzae Bri. et Cav., Nigrospora oryzae (B. et Br.).Petch., Cercospora oryzae Miyake. They cause an early withering of leaves and attack the flowers. Low yield of seeds is the consequence of an important falling (about 30%) of the developing flowers and a high proportion of attacked seeds (about 20%).

In irrigated culture, the impossibility of controlling the height of the water during the germination in direct-sown plots leads to considerable losses occasioned by poor germination of the seeds and suffocation of seedlings. The plants which survive, take root with difficulty, and stool poorly. They are very sensitive to sclerotal fungi such as Corticium rolfsii Curzi and Sclerotium oryzae Catt. and to Linocarpon oryzinum (Sacc.) Petr. which causes laying.

In badly drained rice plantations and in hollows which dry out periodically, the attacks of Sclerotium oryzae Catt. cause an important proportion of sterility of the tillers, and a serious shedding of flowers, while Linocarpon oryzinum (Sacc.) Petr. causes general laying.

Leaf parasites are the same as in rainy culture, Helminthosporium oryzae Br. de H. being the most dangerous. Frequently in unimproved rice plantations, the proportion of healthy seeds is only 45-60 % of the developed flowers.

Research must be made into the reduction of losses caused by parasitic diseases, at first through action on the natural factors (host, soil, and cultural practices). These measures by reducing the factors favourable to pathogens, can be the most economic and efficient

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